Abstract of the Disclosure

A vibration-isolation system for assembly of a motorcycle frame with an engine/transmission unit has a first pivotal mount at a rear portion of the frame and engine/transmission unit, the first mount comprising all rigid bearing components mounted to solid elements of both the frame and the engine/transmission unit, the first mount thereby allowing the engine/transmission unit to rotate around the first mount in substantially a vertical plane of the frame, but allowing no pivotal movement in any other plane or any translation movement in any direction relative to the frame; and a second mount at a front portion of the frame and engine/transmission unit, the second mount incorporating one or more elastomeric elements between a solid interface to the frame and a solid interface to the engine/transmission unit, thereby allowing substantially vertical translation of the engine transmission unit relative to the frame at the second mount, the translation of an amplitude limited by the elastomeric elements, and thereby limiting the rotation of the engine/transmission unit around the first pivotal mount.